UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,734	06/18/2001	A. Scott Hollums	1875.0700002	8770

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EXAMINER
PHAN, MAN U

ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	09/881,734	HOLLUMS ET AL.
	Examiner	Art Unit
	Man Phan	2616

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 October 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-15</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5 and 7-13</u> is/are rejected.

7)☒ Claim(s) <u>6, 14-15</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Response to Amendment and Argument

1.   This communication is in response to applicant's 10/27/2006 response in the application

of Hollums et al. for a "System, method and computer program product for scheduling burst

profile changes based on minislot count" filed 06/18/2000. This application claims Priority from

Provisional Application 60261273 filed 01/12/2001. The amendment and response has been

entered and made of record. Claims 1-15 are pending in the application.

2.   Applicant's amendment to the rejected claims are insufficient to distinguish the claimed

invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C. 103

as discussed below. Applicant's remarks with respect to the pending claims have been fully

considered, but they are not persuasive for at least the following reasons.

In response to Applicant's argument that the reference does not teach or reasonably

suggest the functionality upon which the Examiner relies for the rejection. The Examiner first ·

emphasizes for the record that the claims employ a broader in scope than the Applicant's

disclosure in all aspects. In addition, the Applicant has not argued any narrower interpretation of

the claim limitations, nor amended the claims significantly enough to construe a narrower

meaning to the limitations. Since the claims breadth allows multiple interpretations and

meanings, which are broader than Applicant's disclosure, the Examiner is <u>required</u> to interpret

the claim limitations in terms of their broadest reasonable interpretations while determining

patentability of the disclosed invention. <u>See</u> MPEP 2111. In other words, the claims <u>must</u> be

given their broadest reasonable interpretation consistent with the specification and the

interpretation that those skilled in the art would reach. See *In re Hyatt*, 211 F.3d 1367, 1372, 54

USPQ2d 1664, 1667 (Fed. Cir. 2000), *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464,

1468 (Fed. Cir. 1999), and *In re American Academy of Science Tech Center*, 2004 WL 1067528

(Fed. Cir. May 13, 2004). Any term that is not clearly defined in the specification <u>must</u> be given

its plain meaning as understood by one of ordinary skill in the art. See MPEP 2111.01. See also

In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989), *Sunrace Roots Enter.*

Co. v. SRAM Corp., 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003), *Brookhill-*

Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir.

2003). The interpretation of the claims by their broadest reasonable interpretation reduces the

possibility that, once the claims are issued, the claims are interpreted more broadly than justified.

See *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). Also,

limitations appearing in the specification but not recited in the claim are not read into the claim.

See *In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)*. Therefore, the failure

to significantly narrow definition or scope of the claims and supply arguments commensurate in

scope with the claims implies the Applicant intends broad interpretation be given to the claims.

The Examiner has interpreted the claims in parallel to the Applicant in the response and

reiterates the need for the Applicant to distinctly define the claimed invention.

Applicant's argument with respect to the rejected claim 1 that the cited references fails to

disclose or suggest "*sends the parameters to the physical layer device at the predetermined*

changeover time" as claimed. However, <u>DOCSIS</u> standard provides a method in which PHY

parameters (i.e, a burst profile) can be <u>changed</u>. Such a change requires a reprogramming of

components that handle PHY processing, including PHY devices at the headend. Furthermore,

In conventional <u>DOCSIS</u> systems, the CMTS may transmit a DCC Request (DCC-REQ) message to cause a CM to <u>change</u> the upstream channel on which it is transmitting, the downstream channel it is receiving, or both. The "Upstream Channel <u>Change</u>" or "Dynamic Channel <u>Change</u>" is a standard mechanism in the <u>DOCSIS</u> protocol and permits the cable modem to remain connected during a <u>change</u> to the upstream port mappings. Either or both of the downstream and upstream channels can be changed on the fly. This allows for load balancing of channels, which can improve robustness. As admitted by the Applicant as the prior art shown in Fig. 1 and in the specification [0003]-[0013] for parameter change process for headend PHY devices, in which in step 135, the MAP message is sent downstream. In step 140, the changeover point arrives (i.e., the start of first minislot of the dead time, as specified in the MAP message) and a central processing unit (CPU) at the headend is interrupted. This interrupt must be handled during the dead time. In step 145, the new parameters are written, via a port of the CPU, to the headend PHY device. The write process is driven by software executing on the CPU. The process concludes at step 150. Therefore, this statement constitutes an admission of prior art. See MPEP 2129 and Riverwood Int'l Corp. v. R.A. Jones & Co., 324 F.3d 1346, 1354, 66 USPQ2d 1331, 1337 (Fed Cir. 2003).

Since no substantial amendments have been made and the Applicant's arguments are not persuasive, the claims are drawn to the same invention and the text of the prior art rejection can be found in the previous Office Action. Therefore, the Examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action.

Claim Rejections - 35 USC ' 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth
>
> in section 102 of this title, if the differences between the subject matter sought to be patented and the
>
> prior art are such that the subject matter as a whole would have been obvious at the time the invention
>
> was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability
>
> shall not be negatived by the manner in which the invention was made.

4.   This application currently names joint inventors. In considering patentability of the claims

under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was

commonly owned at the time any inventions covered therein were made absent any evidence to

the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a later invention was

made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35

U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5.   Claims 1-5, 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bisceglia et al. (US#6,275,498) in view of Sambamurthy et al. (US#6,108,713).

With respect to claims 1-4, Bisceglia et al. (US#6,275,498) in view of Sambamurthy et

al. (US#6,108,713) disclose a novel system and method for changing upstream physical layer

parameters in a head-end physical layer device of a communication system, according to the

essential features of the claims. Bisceglia et al. discloses in Fig. 3 a block diagram illustrated a

system for changing one or more PHY communication parameters (44) includes a controller

being operative to produce bus selection output signals and the control logic being responsive

to the bus selection output signals to selectively couple one of the plurality of serial

bidirectional control buses to the second bus interface to permit message communication'

between the controller and a specified one of the at least one PHY coupled to the selected serial

bidirectional control bus. The controller being operative to store information corresponding to

at least a portion of a PHY management message within a transmit descripter associated with

the serial peripheral interface and to forward a command to the serial peripheral interface to

initiate transmission of the at least a portion of the PHY management message contained in the

transmit descripter to a selected PHY coupled to one of said control buses specified by the bus

selection output signals via the second bus interface, wherein the transmission over the second

bus interface proceeds independently of, and concurrently with, the control program execution

within the controller (Col. 11, lines 29 plus). Note that a serial peripheral interface (SPI) is

employed to control the interface between MAC layer components and PHY layer components

for a mutual data transmission. Such an interface employs handshaking as a way of

transmitting and receiving signals such as an information request, a transmission check, a

reception check, and the like to perform the mutual data transmission, and it's well known in

the art.

Bisceglia et al. does not explicitly disclose the step of sending the parameters to the

physical layer device at a predetermined time. However, the above mentioned claimed

limitations are taught by Sambamurthy (US#6,108,713). In particular, Sambamurth teaches a

monitoring circuit (see Fig. 2, a combined system of micro RISC stream processor 114 and

Super MAC management 117) sending a message (see Fig. 2, an instruction/message is sent

to/from the combined management system) to the transmitter (see Fig. 2, Tx Super MAC

controller 118) to change a physical layer parameter responsive to the collected statistics (see

col. 10, lines 42 to col. 11, lines 52; Also see col. 12, lines 32-42). Note that the combined

management system sends the management/control command/instruction to the transmitter to

change/modify the physical layer parameter/limitation according to the stored statistics) and to

the receiver (see Fig. 2, Rx Super MAC Controller 120) to process data signals based on the

changed parameter (see col. 10, lines 42 to col. 11, lines 52; Also, col. 12, lines 32-42). Note

that the combined management system sends the management/control command/instruction to

the receiver to process the packet/data/signal according to the changed/modified the physical

layer parameter/limitation (see col. 12 lines 56 to col. 13, lines 37; Also see Fig. 3).

With respect to claims 5, 7, the combined system of Bisceglia and Sambamurthy

disclose the monitoring circuit send s a message to change the physical layer parameter as

described in the claims above, Sambamurthy et al. further teach in Fig. 2 a architectural

diagram illustrated a flow based Media Access Controller (MAC) 150 for high speed

transmission, in which a FIFO Tx 106 acts as a buffer (e.g., RAM memory) for holding data

that is being transmitted from the upper LLC layer through network data system bus 101. The

FIFO Tx 106 is preferably capable of storing up to ten or more packets of data. Once a suitable

number of packets are buffered in FIFO Tx 106, a network flow managing FIFO Tx controller

110 is implemented to manage the high speed flow of packets from FIFO Tx 106 into a micro

RISC stream processor 114a. At a higher level, network flow managing FIFO Tx controller 110

may be responsible for prioritizing the different types of data being transferred across a

network, such as audio, video, graphics, etc. In this manner, flow based MAC 150 is capable of

having multiple simultaneous streams of data flowing through FIFO Tx 106 at one time (Col. 7,

lines 38 plus, and Col. 38, line 37 plus).

Regarding claims 8-13, they are method claims corresponding to the system claims 1-5,

7 above. Therefore, claims 8-13 are analyzed and rejected as previously discussed with respect

to claims 1-5, 7.

One skilled in the art would have recognized the need for effectively and efficiently

changing one or more PHY parameters as configured in a PHY device, and would have applied

Sambamurthy's teaching of a mechanism of sending a message/instruction to the receiver to

process the packet/data/signal into Bisceglia's novel use of a PHY signal control device.

Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the

invention was made to apply Sambamurthy's MAC architectures and network management

systems into Bisceglia's extended PHY addressing with the motivation being to provide a

method and system for changing PHY parameters in a PHY device of a communication system.

The motivation being that by instructing the receiver in order to synchronize with the

transmitter, it will reduce the error or failures due to mismatch processing of data between

transmit and receive signals/data.

Allowable Subject Matter

6.   Claims 6 and 14-15 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable

subject matter: The closest prior art of record fails to disclose or suggest wherein the control

registers further store a channel identifier, which corresponds to a communications channel to

which the parameters pertain, and further comprising the step of: (f) receiving periodic updates

of the current time, performed before step (e).

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

The Grimwood et al. (US#6,459,703) is cited to show mixed DOCSIS 1.0 TDMA bursts

with SCDMA transmissions on the same frequency channel.

The Lacey, III (US#6,952,430) is cited to show system and method for interfacing a data

link protocol engine and a physical layer.

The Cole (US#6,714,589) is cited to show communication device with primitive

synchronization signal.

The Grand et al. (US#7,110,398) is cited to show packet tag for support of remote

network function/packet classification.

The Denney et al. (US#7,006,535) is cited to show method and system for providing time

offset to minislot clock and count in headend devices.

The Vogel et al. (US#6,963,541) is cited to show upstream transmission profiles for a

DOCSIS or DOCSIS like system.

The Hou (US#6,898,755) is cited to show the method for increasing physical layer

flexibility in cable modem systems

8.   **THIS ACTION IS MADE FINAL.** See MPEP ' 706.07(a). Applicant is reminded of the

extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this

final action.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The

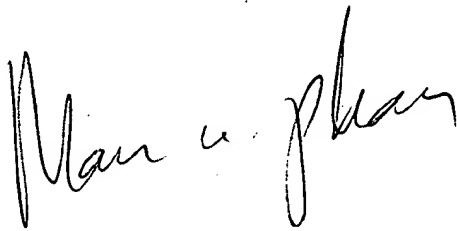examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's ·

supervisor, Wellington Chin, can be reached on (571) 272-3134. The fax phone number for the

organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of

a general nature or relating to the status of this application or proceeding should be directed to

the receptionist whose telephone number is (571) 272-2600.

10.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information for

unpublished applications is available through Private PAIR only. For more information about

the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to

the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-

9197.

Mphan

Jan. 04, 2007